



CPFilms Inc:

PO Box 5068  
Martinsville  
Virginia 24115  
(276) 627-3000

November 30, 2015



FEDEX OVERNIGHT MAIL

Ms. Lynn V. Wise  
Senior Environmental Engineer  
DEQ Blue Ridge Regional Office – Roanoke  
3019 Peters Creek Road  
Roanoke, VA 24019

Subject: VPDES Permit Renewal Application  
VPDES Permit No. VA0072354

Dear Ms. Wise:

Enclosed with this letter is the original of the permit application to renew VPDES Permit No. VA0072354. This application has been certified by my Plant Manager, Pat Caldarera.

Also, included with this application are the completed Public Notice Billing Information and the facility status questionnaire for cooling tower intake structures (Section 316(b) in the Clean Water Act).

I will submit by email the electronic version to your attention.

If you have any questions, please do not hesitate to contact me at 276-627-3373.

Sincerely,

A handwritten signature in black ink, appearing to read "John Martinez".

John Martinez  
Environmental Specialist

## PUBLIC NOTICE BILLING INFORMATION

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9 VAC 25-31-290.C.2.

Agent/Department to be billed:	<u>CPFilms Inc.</u>
Owner:	<u>CPFilms Inc.</u>
Agent/Department Address:	<u>4210 The Great Road</u>
	<u>Martinsville, VA 24089</u>
	<u></u>
Agent's Telephone No.:	<u>276-627-3000</u>
Printed Name:	<u>Pat Caldarera, Plant Manager</u>
Authorizing Agent – Signature:	<u>Pat Caldarera</u>
Date:	<u>11/30/2015</u>

VPDES Permit No. VA0072354  
CPFilms, Inc.

Please return to: Virginia Department of Environmental Quality  
Blue Ridge Regional Office  
3019 Peters Creek Road  
Roanoke, VA 24019  
Attn: Lynn V. Wise

**EPA FORM 1**

<b>FORM 1</b> <b>GENERAL</b>		 <b>U.S. ENVIRONMENTAL PROTECTION AGENCY</b> <b>GENERAL INFORMATION</b> <i>Consolidated Permits Program</i> <small>(Read the "General Instructions" before starting)</small>	<b>I. EPA I.D. NUMBER</b>																		
			<table border="1" style="width:100%; border-collapse: collapse;"><tr><td style="width: 5%; text-align: center;">S</td><td style="width: 85%;"></td><td style="width: 5%; text-align: center;">T/A</td><td style="width: 5%; text-align: center;">C</td></tr><tr><td style="text-align: center;">F</td><td style="text-align: center;"><b>VA0072354</b></td><td style="text-align: center;">13</td><td style="text-align: center;">14</td></tr><tr><td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">13</td><td style="text-align: center;">14</td></tr></table>										S		T/A	C	F	<b>VA0072354</b>	13	14	1
S		T/A	C																		
F	<b>VA0072354</b>	13	14																		
1	2	13	14																		
LABEL ITEMS		GENERAL INSTRUCTIONS																			
II. EPA I.D. NUMBER		<div style="border: 2px solid black; padding: 10px; font-size: 1.2em; font-weight: bold;">PLEASE PLACE LABEL IN THIS SPACE</div>																			
III. FACILITY NAME																					
V. FACILITY MAILING ADDRESS																					
VI. FACILITY LOCATION																					
<b>II. POLLUTANT CHARACTERISTICS</b>																					
<small>INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of <b>bold-faced terms</b>.</small>																					
SPECIFIC QUESTIONS				MARK "X"			SPECIFIC QUESTIONS				MARK "X"										
				YES	NO	FORM ATTACHED					YES	NO	FORM ATTACHED								
A. Is this facility a <b>publicly owned treatment works</b> which results in a <b>discharge to waters of the U.S.?</b> (FORM 2A)					<b>X</b>		B. Does or will this facility ( <i>either existing or proposed</i> ) include a <b>concentrated animal feeding operation or aquatic animal production facility</b> which results in a <b>discharge to waters of the U.S.?</b> (FORM 2B)				<b>X</b>										
				16	17	18					19	20	21								
C. Is this a facility which currently results in <b>discharges to waters of the U.S.</b> other than those described in A or B above? (FORM 2C) <b>FORM 2F</b>				<b>X</b>		<b>X</b>	D. Is this a proposed facility (other than those described in A or B above) which will result in a <b>discharge to waters of the U.S.?</b> (FORM 2D)				<b>X</b>										
				16	17	18					19	20	21								
E. Does or will the facility treat, store, or dispose of <b>hazardous wastes?</b> (FORM 3)					<b>X</b>		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)				<b>X</b>										
				16	17	18					19	20	21								
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)					<b>X</b>		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)				<b>X</b>										
				16	17	18					19	20	21								
I. Is this facility a proposed <b>stationary source</b> which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an <b>attainment area?</b> (FORM 5)					<b>X</b>		J. Is this facility a proposed <b>stationary source</b> which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an <b>attainment area?</b> (FORM 5)				<b>X</b>										
				16	17	18					19	20	21								
<b>III. NAME OF FACILITY</b>																					
C		1 SKIP <b>CPFILMS INC.</b>																			
15		16 29 30 69																			
<b>IV. FACILITY CONTACT</b>																					
A. NAME & TITLE (last, first, & title) B. PHONE (area code & no.)																					
C		2 <b>MARTINEZ, JOHN, ENVIRONMENTAL SPECIALIST</b> 276 627 3373																			
15		16 45 46 48 49 51 52 55																			
<b>V. FACILITY MAILING ADDRESS</b>																					
A. STREET OR P.O. BOX																					
C		3 <b>4210 THE GREAT ROAD</b>																			
15		16 45																			
B. CITY OR TOWN C. STATE D. ZIP CODE																					
C		4 <b>MARTINSVILLE</b> <b>VA</b> <b>24089</b>																			
15		16 40 41 42 47 51																			
<b>VI. FACILITY LOCATION</b>																					
A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER																					
C		5 <b>4210 THE GREAT ROAD</b>																			
15		16 45																			
B. COUNTY NAME																					
C		HENRY																			
15		16 46 70																			
C. CITY OR TOWN D. STATE E. ZIP CODE F. COUNTY CODE (if known)																					
C		6 <b>FIELDALE</b> <b>VA</b> <b>24089</b>																			
15		16 40 41 42 47 51 52 54																			



## VII. SIC CODES (4-digit, in order of priority)

A. FIRST				B. SECOND			
C	7	3083	(specify)	C	7	(specify)	
15	16	19	LAMINATED PLASTICS PLATE, SHEET, AND PROFILE SHAPES	15	16	19	
C. THIRD				D. FOURTH			
C	7	(specify)		C	7	(specify)	
15	16	19		15	16	19	

## VIII. OPERATOR INFORMATION

A. NAME				B. Is the name listed in Item VIII-A also the owner?			
C	8	CPFILMS INC.		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
15	16		58	66			
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: if "Other", specify.)				D. PHONE (area code & no.)			
F = FEDERAL      M = PUBLIC (other than federal or state) S = STATE        O = OTHER (specify) P = PRIVATE				P	(specify)	C	276
				56		A	627
						15	3000
						16	18
						19	21
						22	25

E. STREET OR P.O. BOX				F. CITY OR TOWN				G. STATE		H. ZIP CODE		XI. INDIAN LAND	
2410 THE GREAT ROAD				FIELDALE				VA		24089		Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
26				40				41		42		47	
												52	

## X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)				D. PSD (Air Emissions from Proposed Sources)			
C	T	I		C	T	I	
9	N		VA0072354	9	P		
15	16	17	18	30	15	16	17
B. UIC (Underground Injections of Fluids)				E. OTHER (specify)			
C	T	I		C	T	I	
9	U			9			VMRC8715866
15	16	17	18	30	15	16	17
				WATER INTAKE PERMIT			
C. RCRA (Hazardous Wastes)				F. OTHER (specify)			
C	T	I		C	T	I	
9	R		VAD066008780/VAD108517491	9			WCRO-30294
15	16	17	18	30	15	16	17
				TITLE V AIR PERMIT			

## XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements. **SEE ATTACHED MAP**

## XII. NATURE OF BUSINESS (provide a brief description)

SOLAR FILM MANUFACTURING

## XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
PAT CALDARERA, PLANT MANAGER	<i>Pat Calderera</i>	11/30/2015

## COMMENTS FOR OFFICIAL USE ONLY

C		
15	16	55

**EPA FORM 2F**

Please print or type in the unshaded areas only.

VA0072354

[illegible]

Continued from the Front

**IV. Narrative Description of Pollutant Sources**

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
001	143,513 SQ.FT.	205,279 SQ.FT.	006	88,747 SQ. FT.	773,259 SQ. FT.
003	362,947 SQ. FT.	1,041,926 SQ. FT.	007	39,411 SQ. FT.	45,808 SQ. FT.
004	55,743 SQ. FT.	105,768 SQ. FT.	008	0 SQ. FT.	710 SQ. FT.
005	321,340 SQ.FT.	438,288 SQ. FT.			

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed, in the last three years, to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

SEE ATTACHMENT

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
	SEE ATTACHMENT	

**V. Nonstormwater Discharges**

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed
PAT CALDARERA, PLANT MANAGER	Pat Caldara	01/07/2016

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test

**DRY WEATHER FLOWS WERE OBSERVED BY CPFILMS AND CHA CONSULTING, INC STAFF. IN ADDITION, PLANT SCHEMATICS WERE REVIEWED AND MAINTENANCE PERSONNEL WERE INTERVIEWED TO VERIFY NO NON-STORM WATER DISCHARGES (EXCEPT FOR OUTFALL 001 (VPDES PERMITTED COOLING WATER) AND 006 (GROUNDWATER SPRING)).**

**VI. Significant Leaks or Spills**

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

**On January 11, 2013 at 1:15pm there was a spill of approximately 5 gallons of Emulsified Oil Substrate (EOS) through Outfall 006 to an unnamed tributary of the Smith River. The facility responded by placing booms in the stream. The standing water/EOS mixture was pumped out and transported to the treatment plant onsite. Both the National Response Center and the Virginia Department of Environmental Quality were notified about the spill.**

**ATTACHMENT TO FORM 2F**

CPFilms, Incorporated  
Fieldale, Virginia

***IV.B. Narrative Description of Pollutant Sources***Outfall 001 (Plant 1)

- This drainage basin is almost exclusively runoff from a paved parking lot.

Outfall 003 (Plant 2)

- The storm and roof drains located around the facility discharge to this Outfall.
- Raw materials are either stored and handled under a roof or inside the building.
- One tank farm is exposed to stormwater, but this area is diked with a three-foot concrete retaining wall and bermed with earthen material as a secondary containment. This area also has a liner in place for tertiary containment.
- One diked 3,500 gallon emergency dump tank can store Therminol® 55.
- The lagoon is sloped to catch stormwater before it can reach the Outfall.
- All solid domestic waste is kept in dumpsters and is removed three times a week by a refuse company.

Outfall 004 (Plant 2)

- The drainage area for this Outfall:
  - Does not contain and industrial processes
  - Includes the front parking lot to the plant and the guard house, and the grassy areas between the parking lot and the guard house

Outfall 005 (Plant 1)

- The storm and roof drains located around the facility, in the landscaping and parking areas, discharge to this Outfall.
- Fertilizers and lime may be applied to the facility grounds and the herbicide, "Domade" or equivalent is used on an as needed basis for weed control in asphalt and concrete areas.
- All chemicals used for processing are stored inside the main building.
- Stormwater comes into contact with the sludge beds at the WWTP but does not run onto the property

Outfall 006 (Plant 2)

- This Outfall is not monitored because:
  - Discharge to this Outfall does not come into contact with industrial process.
  - The topography includes a grassy field that receives no fertilizers or herbicides.

Outfall 007 (Plant 1)

- This drainage basin is almost exclusively runoff from a paved parking lot.

Outfall 008 (Plant 1)

- Drainage around WWTP Pump Station.

***IV.C. Structural Control Measures***Plant 1

Potential pollutants are reduced by vegetative ground cover. Areas around the WWTP are bermed such that runoff is diverted to the WWTP and not the stormwater outfall. Storm and roof drains are located around the facility and discharge to 003.

Plant 2

Potential pollutants are reduced by vegetative ground cover and natural topography. Stormwater runoff is diverted to the respective outfalls using berms and concrete curbing. The tank farm area has tertiary containment.

LEGEND

→ INDICATES STORM WATER FLOW

--- DRAINAGE AREA BOUNDARY

MW1 ⊕ MONITORING WELL

■ STORM WATER INLET

— TRUCK LOADING DOCK

① OUTDOOR STORAGE

⊕ SPILL KIT

— STORM TO WASTE

OUTDOOR STORAGE LOCATIONS

① CONTAINED IN CONCRETE DIKED AREA:

- 2,000 gal RECLAIM EG
- 2,000 gal VIRGIN M PYROL (NMP)
- 3,000 gal VIRGIN M PYROL (NMP)
- 3,000 gal VIRGIN M PYROL (NMP)
- 4,000 gal DIRTY M PYROL (NMP)
- 7,500 gal VIRGIN M PYROL (NMP)
- 10,000 gal DIRTY M PYROL (NMP)
- 10,000 gal CLEAN EG FOR NEW EG WASH
- 10,000 gal CLEAN EG FOR NEW EG WASH
- 5,000 gal RECLAIM TANK

② EMPTY DRUMS/LOADING DOCK

③ 3,500 gal THERMINOL 55  
NOT ACTIVE – ONLY USED AS AN EMERGENCY DUMP TANK UNDER ROOF  
STAINLESS STEEL LINED CONCRETE DIKE

④ 710,000 gal WASTE WATER LAAGOON

⑤ LOADING DOCKS

⑥ STAGING AREA

⑦ 2,300,000 gal WASTE WATER LAAGOON

⑧ 300 gal CALCIUM NITRATE & 300 gal PHOSPHORIC ACID

⑨ SLUDGE DRYING BEDS

⑩ SCRAP METAL STORAGE

⑪ 400 gal THERMINOL 55 EXPANSION TANK ON ROOF

⑫ 2,336 gal THERMINOL 55 EXPANSION TANK ON ROOF

TRANSFORMER LOCATIONS

A 300–350 GAL MINERAL OIL IN 1500 kVa TRANSFORMER (TOTAL OF 10)

B 420–500 GAL MINERAL OIL IN 3000 kVa TRANSFORMER (TOTAL OF 6)

TRUCK LOADING DOCKS

- TRUCKS SEAL WITH BUILDING DURING LOADINGS
- CANOPIES ARE OVER LOADING DOORS

HERBICIDE TREATMENT AREAS

- HERBICIDES ARE USED TO SPOT TREAT IN PAVEMENT AREAS
- APPLIED ON FENCE LINE SURROUNDING FACILITY AREAS APPROX. ONCE EVERY 5 YEARS

DRAINAGE AREA 1 = 4.7 ACRES

DRAINAGE AREA 3 = 23.9 ACRES

DRAINAGE AREA 4 = 2.4 ACRES

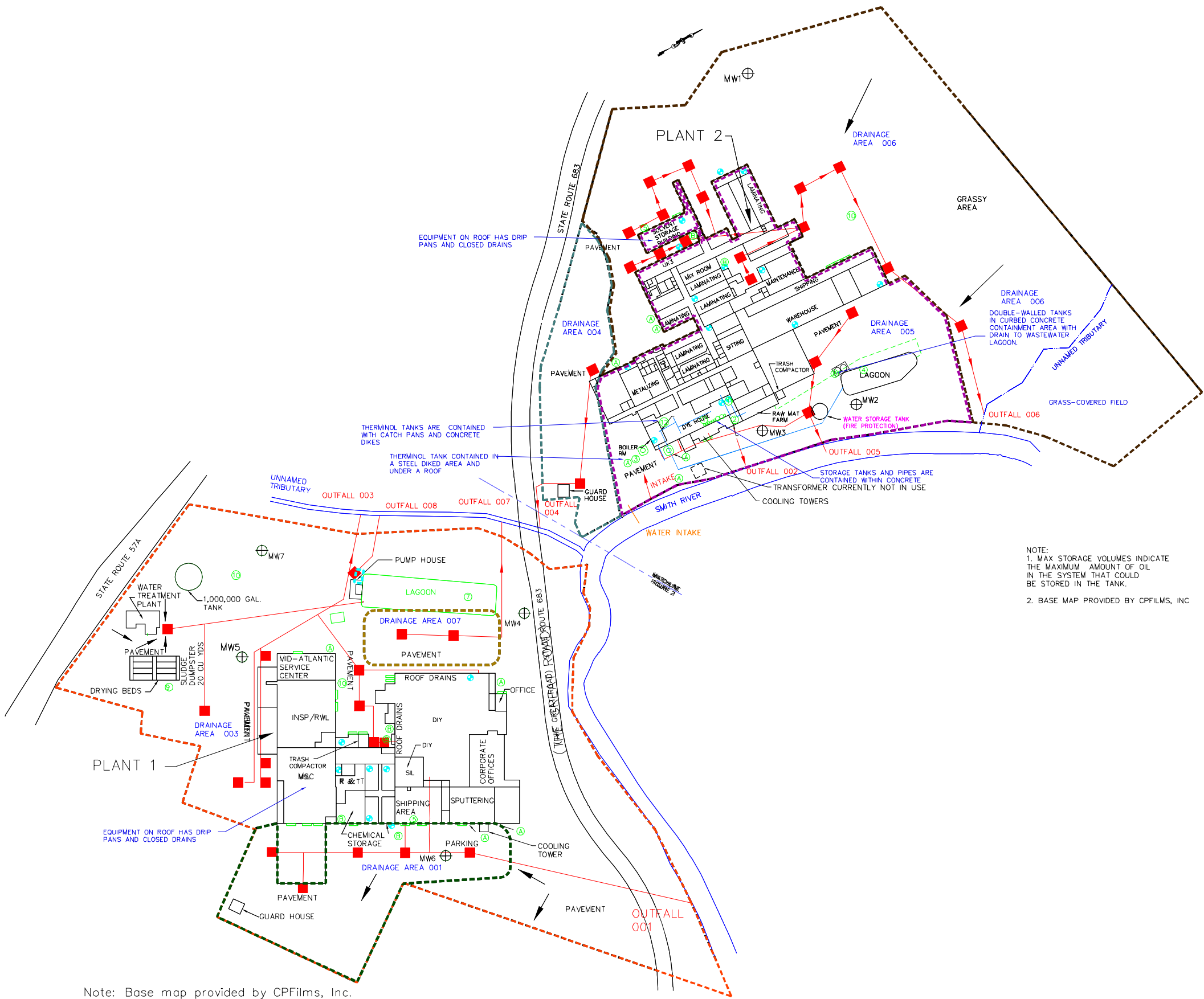
DRAINAGE AREA 5 = 10.0 ACRES

DRAINAGE AREA 6 = 17.8 ACRES

DRAINAGE AREA 7 = 1.1 ACRES

DRAINAGE AREA 8 = <0.1 ACRES

\*BEST MANAGEMENT PRACTICES (BMPs)



NOTE:  
1. MAX STORAGE VOLUMES INDICATE THE MAXIMUM AMOUNT OF OIL IN THE SYSTEM THAT COULD BE STORED IN THE TANK.  
2. BASE MAP PROVIDED BY CPFILMS, INC

Note: Base map provided by CPFilms, Inc.

1	VPDES PERMIT APPLICATION	12/2015	SMW	
0	SWPPP 2014 TRAINING	9/2014	SMW	
Rev.	Description	Date	By	

VA0072354

Continued from Page 2

**VII. Discharge Information**

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E. Potential discharges not covered by analysis-is any pollutant listed in Table 2F-2 a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ Yes (list all such pollutants below)

☒ No (go to section VIII)
**VIII. Biological Toxicity Testing Data**

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (list results below)

☒ No (go to Section IX)
**IX. Contract Analysis Information**

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

☐ No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
TEST AMERICA	5102 LAROCHE AVENUE SAVANNAH, GA 31404	919-354-7858	ALL EXCEPT PH AND THOSE LISTED BELOW
REIC, Inc.	225 INDUSTRIAL PARK ROAD BEAVER, WV 25813	304-255-2500	BOD FOR GRAB SAMPLES FOR OUTFALLS 005 AND 007

**X. Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name &amp; Official Title (type or print)

PAT CALDARERA, PLANT MANAGER

B. Area Code and Phone No.

276-627-3000

C. Signature



D. Date Signed

11/30/2015





Part C- List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements.  
Complete one table for each outfall.

**OUTFALL 001**

[illegible]

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm meas- ured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
7/28/2015	150	2.1 in.	>72 hrs	~3,700 GAL/MIN	~258,000 GALLONS	Summer	rainfall

The height of the water in the discharge pipe was measured and used to calculate flow based on Manning's Equation. Flow was calculated between the time the grab sample was collected and the time the last composite subsample was collected which was when flow ceased. The flow rate was measured each time a sample was collected, and the volume of sample collected was based on the flow.



Continued from the Front

Part C: List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements.

Complete one table for each outfall.

## OUTFALL 003

[illegible]

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

Part D: Provide data for the storm event(s) which resulted in the maximum release for the next highest pipe size.							
1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
7/28/2015	150	2.1 in.	>72 hrs	~6,800 gal/min	~345,000 gallons	Summer	rainfall

9. Provide a description of the method of flow measurement or estimate

The height of the water in the discharge pipe was measured and used to calculate flow based on Manning's Equation. Flow was calculated between the time the grab sample was collected and the time the last composite subsample was collected which was when flow ceased. The flow rate was measured each time a sample was collected, and the volume of sample collected was based on the flow.



Continued from the Front

Part C- List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements.  
Complete one table for each outfall.

[illegible]

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample:							
1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
7/28/2015	150	2.1 in.	>72 hrs	~3,700 GAL/MIN	~258,000 GALLONS	Summer	rainfall

9. Provide a description of the method of flow measurement or estimate

The height of the water in the discharge pipe was measured and used to calculate flow based on Manning's Equation. Flow was calculated between the time the grab sample was collected and the time the last composite subsample was collected which was when flow ceased. The flow rate was measured each time a sample was collected, and the volume of sample collected was based on the flow.



Part D-	Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.
---------	--

9. Provide a description of the method of flow measurement or estimate	
--	--

\_\_\_\_\_





**OUTFALL 006**

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

	2.	3.	4.	5.	6.	7.	8.
--	----	----	----	----	----	----	----

9	Provide a description of the method of flow measurement or estimate
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\*NOT SAMPLED-NO INDUSTRIAL ACTIVITY

Page VII-2



Continued from the Front

Part C. List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements.

Complete one table for each outfall.

**OUTFALL 007**

[illegible]

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.							
1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
7/28/2015	150	2.1 in.	>72 hrs	~3,700 GAL/MIN	~258,000 GALLONS	Summer	rainfall

9. Provide a description of the method of flow measurement or estimate

The height of the water in the discharge pipe was measured and used to calculate flow based on Manning's Equation. Flow was calculated between the time the grab sample was collected and the time the last composite subsample was collected which was when flow ceased. The flow rate was measured each time a sample was collected, and the volume of sample collected was based on the flow.



Part C- List each pollutant shown in Tables 2F-2, 2F-3, and 2F-4 that you know or have reason to believe is present. See the instructions for additional details and requirements.  
Complete one table for each outfall.

[illegible]

Part D- Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallons/minute or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season sample was taken	8. Form of Precipitation (rainfall, snowmelt)
7/28/2015	150	2.1 in.	>72 hrs	~3,700 GAL/MIN	~258,000 GALLONS	Summer	rainfall


9. Provide a description of the method of flow measurement or estimate

The height of the water in the discharge pipe was measured and used to calculate flow based on Manning's Equation. Flow was calculated between the time the grab sample was collected and the time the last composite subsample was collected which was when flow ceased. The flow rate was measured each time a sample was collected, and the volume of sample collected was based on the flow.

**EPA FORM 2E**


Please print or type in the unshaded areas only.		EPA ID Number (copy from Item 1 of Form 1)		Form Approved. OMB No. 2040-0086. Approval expires 5-31-92.			
FORM <b>2E</b> NPDES	<b>Facilities Which Do Not Discharge Process Wastewater</b>						
<b>I. RECEIVING WATERS</b>							
For this outfall, list the latitude and longitude, and name of the receiving water(s).							
Outfall Number (list)	Latitude			Longitude		Receiving Water (name)	
	Deg	Min	Sec	Deg	Min	Sec	
001	36.00	43.00	39.00	79.00	56.00	50.00	Smith River
<b>II. DISCHARGE DATE</b> (If a new discharger, the date you expect to begin discharging)							
<b>III. TYPE OF WASTE</b>							
A. Check the box(es) indicating the general type(s) of wastes discharged.							
<input type="checkbox"/> Sanitary Wastes <input type="checkbox"/> Restaurant or Cafeteria Wastes <input checked="" type="checkbox"/> Noncontact Cooling Water <input checked="" type="checkbox"/> Other Nonprocess Wastewater (Identify)             Stormwater							
B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available.							
N/A							
<b>IV. EFFLUENT CHARACTERISTICS</b>							
<b>A. Existing Sources</b> — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority (see instructions). <b>B. New Dischargers</b> — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values (see instructions).							
Pollutant or Parameter	(1) Maximum Daily Value (include units)		(2) Average Daily Value (last year) (include units)		(3)	(4)	
	Mass	Concentration	Mass	Concentration	Number of Measurements Taken (last year)	Source of Estimate (if new discharger)	
Biochemical Oxygen Demand (BOD)	Waiver	Granted					
Total Suspended Solids (TSS)	Waiver	Granted					
Fecal Coliform (if believed present or if sanitary waste is discharged)	N/A						
Total Residual Chlorine (if chlorine is used)	N/A						
Oil and Grease		<5 mg/L*			1.00		
*Chemical oxygen demand (COD)		<20 mg/L*			1.00		
*Total organic carbon (TOC)		3.6 mg/L*			1.00		
Ammonia (as N)	Waiver	Granted					
Discharge Flow	Value     0.732 MGD		0.592 MGD		143.00		
pH (give range)	Value     6.83 - 7.62 S.U.		7.08-7.45		143.00		
Temperature (Winter)	5.90 °C		7.10 °C		143.00		
Temperature (Summer)	19.60 °C		17.50 °C		143.00		
*If noncontact cooling water is discharged							

\*The data above is from the 2005 VPDES permit application Form 2E submitted by CPFilms Inc.  
 Outfall has not discharged since December 2008

<b>V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal?</b>		<input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, briefly describe the frequency of flow and duration.		
Flow resulting from use of river water as non-contact cooling water during emergency situations when mechanical cooling system is not available.		
<b>VI. TREATMENT SYSTEM</b> (Describe briefly any treatment system(s) used or to be used)		
N/A		
<b>VII. OTHER INFORMATION</b> (Optional)		
Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.		
N/A		
<b>VIII. CERTIFICATION</b>		
<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>		
A. Name & Official Title  PAT CALDARERA, PLANT MANAGER	B. Phone No. (area code & no.)  (276) 627-3000	
C. Signature  	D. Date Signed  11/30/2015	



Please print or type in the unshaded areas only.		EPA ID Number (copy from Item 1 of Form 1)		Form Approved. OMB No. 2040-0086. Approval expires 5-31-92.			
FORM <b>2E</b> NPDES		<b>Facilities Which Do Not Discharge Process Wastewater</b>					
<b>I. RECEIVING WATERS</b>							
For this outfall, list the latitude and longitude, and name of the receiving water(s).							
Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg	Min	Sec	Deg	Min	Sec	Smith River
002	36.00	43.00	44.00	79.00	57.00	2.00	
<b>II. DISCHARGE DATE</b> (If a new discharger, the date you expect to begin discharging)							
<b>III. TYPE OF WASTE</b>							
A. Check the box(es) indicating the general type(s) of wastes discharged.							
<input type="checkbox"/> Sanitary Wastes <input type="checkbox"/> Restaurant or Cafeteria Wastes <input checked="" type="checkbox"/> Noncontact Cooling Water <input type="checkbox"/> Other Nonprocess Wastewater (Identify)							
B. If any cooling water additives are used, list them here. Briefly describe their composition if this information is available.							
<b>IV. EFFLUENT CHARACTERISTICS</b>							
<b>A. Existing Sources</b> — Provide measurements for the parameters listed in the left-hand column below, unless waived by the permitting authority (see instructions). <b>B. New Dischargers</b> — Provide estimates for the parameters listed in the left-hand column below, unless waived by the permitting authority. Instead of the number of measurements taken, provide the source of estimated values (see instructions).							
Pollutant or Parameter	(1) Maximum Daily Value (include units)		(2) Average Daily Value (last year) (include units)		(3) Number of Measurements Taken (last year)	(4) Source of Estimate (if new discharger)	
	Mass	Concentration	Mass	Concentration			
Biochemical Oxygen Demand (BOD)	Waiver	Granted					
Total Suspended Solids (TSS)	Waiver	Granted					
Fecal Coliform (if believed present or if sanitary waste is discharged)	N/A						
Total Residual Chlorine (if chlorine is used)	N/A						
Oil and Grease		<5.1 mg/L			1.00		
*Chemical oxygen demand (COD)		<10 mg/L			1.00		
*Total organic carbon (TOC)		2.4 mg/L			1.00		
Ammonia (as N)	Waiver	Granted					
Discharge Flow	Value	1.946 MGD	Value	0.392 MGD	25.00		
pH (give range)	Value	7.80 S.U.	Value	7.34 S.U.	25.00		
Temperature (Winter)		15.60 °C		9.50 °C	25.00		
Temperature (Summer)		18.10 °C		15.60 °C	25.00		
*If noncontact cooling water is discharged							

<b>V. Except for leaks or spills, will the discharge described in this form be intermittent or seasonal?</b>		<input checked="checked" type="checkbox"/> Yes <input type="checkbox"/> No
If yes, briefly describe the frequency of flow and duration.		
Flow resulting from use of river water as non-contact cooling water during emergency situations when mechanical cooling system is not available.		
<b>VI. TREATMENT SYSTEM</b> (Describe briefly any treatment system(s) used or to be used)		
N/A		
<b>VII. OTHER INFORMATION</b> (Optional)		
Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations. Attach additional sheets, if necessary.		
N/A		
<b>VIII. CERTIFICATION</b>		
<i>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>		
A. Name & Official Title  PAT CALDARERA, PLANT MANAGER		B. Phone No. (area code & no.)  (276) 627-3000
C. Signature  		D. Date Signed  11/30/2015

**FACILITY STATUS QUESTIONNAIRE,  
CLEAN WATER ACT §316(b),  
COOLING WATER INTAKE STRUCTURES**

Virginia Department of Environmental Quality (DEQ)

**Facility Status Questionnaire**

Clean Water Act §316(b)

Cooling Water Intake Structures

Owner/Permittee Name: CPFilms Inc

Name of Facility: CPFilms Inc

VPDES Permit Number: VA0072354

1. Does your industrial process involve operation of a cooling system?

- ☒ Yes (Continue to next question)  
☐ No (Stop, no further responses are necessary)  
☐ Don't know (Continue)

2. Does the cooling system use water for cooling purposes?

- ☒ Yes (Continue to next question)  
☐ No (Stop, no further responses are necessary)  
☐ Don't know (Continue)

3. Do you obtain any portion or all of the water used at your facility from one or more intake structures located in a river, stream, canal, lake, estuary or other surface water source that are operated either by your facility or an independent supplier (i.e. not a public water supply)?

☒ Yes

Name of the waterbody source(s): Smith River

Latitude/Longitude location: Lat: 36°43'40.4"N Long: 79°57'01.4"W

(Continue to next question)

- ☐ No (Stop, no further responses are necessary)  
☐ Don't know (Continue)

4. Are the water withdrawals from the intake structure reported annually to the DEQ under the "Water Withdrawal Reporting" Regulation (9VAC 25-200)?

☒ Yes. Userid# 2591

- ☐ No  
☐ Don't know

5. If you were to sum the maximum amount of water that each intake structures is designed or capable of withdrawing, would the total sum be greater than two million gallons of water per day (2 MGD)?

- ☐ Yes  
☒ No  
☐ Don't know

6. Over the past three years, has your facility withdrawn more than an average of 125 million gallons of water per day?

- ☐ Yes  
☒ No  
☐ Don't know

Owner/Permittee Name: CPFilms Inc  
Name of Facility: CPFilms Inc  
VPDES Permit Number: VA0072354

7. Does your facility use 25% or more of the total water withdrawn exclusively for cooling purposes?

☒ Yes

☐ No

☐ Don't know

8. Does your facility currently employ any of the following measures to reduce impingement mortality and entrainment? (Check all that may apply):

☒ Closed-cycle re-circulating cooling water system

☐ Variable speed pumps

☐ Seasonal flow reductions

☐ Wastewater reclamation/reuse

☐ Intakes with maximum design through-screen velocities of 0.5 feet per second, or less

☐ Intakes with actual through-screen velocities operated at 0.5 feet per second, or less

☐ Existing offshore velocity caps

☐ Modified traveling screens

☐ Intake screen mesh materials with maximum opening sizes of 0.56-inch (14 millimeters), or less

☐ Cylindrical wedgewire screens

☐ Barrier nets

☐ Aquatic Filter Barriers

☐ Other \_\_\_\_\_

9. Within the next 5-10 years, does your facility plan to employ or install any of the following measures to reduce impingement mortality and entrainment? (Check all that may apply):

☐ Closed-cycle re-circulating cooling water system

☐ Variable speed pumps

☐ Seasonal flow reductions

☐ Wastewater reclamation/reuse

☐ Intakes with maximum design through-screen velocities of 0.5 feet per second, or less

☐ Intakes with actual through-screen velocities operated at 0.5 feet per second, or less

☐ Existing offshore velocity caps

☐ Modified traveling screens

☐ Intake screen mesh materials with maximum opening sizes of 0.56-inch (14 millimeters), or less

☐ Cylindrical wedgewire screens

☐ Barrier nets

☐ Aquatic Filter Barriers

☐ Other \_\_\_\_\_

10. Has your facility previously completed any studies relating to impingement mortality and/or entrainment at the cooling water intake structure?

☐ Yes. Date(s) of studies: \_\_\_\_\_

☒ No.

Owner/Permittee Name: CPFilms Inc  
Name of Facility: CPFilms Inc  
VPDES Permit Number: VA0072354

11. Do you anticipate adding any new cooling systems at your facility in the next 5 years?

- ☐ Yes  
☒ No  
☐ Don't know

12. What is your current status in compiling the following information pursuant to 40 CFR §122.21(r)?

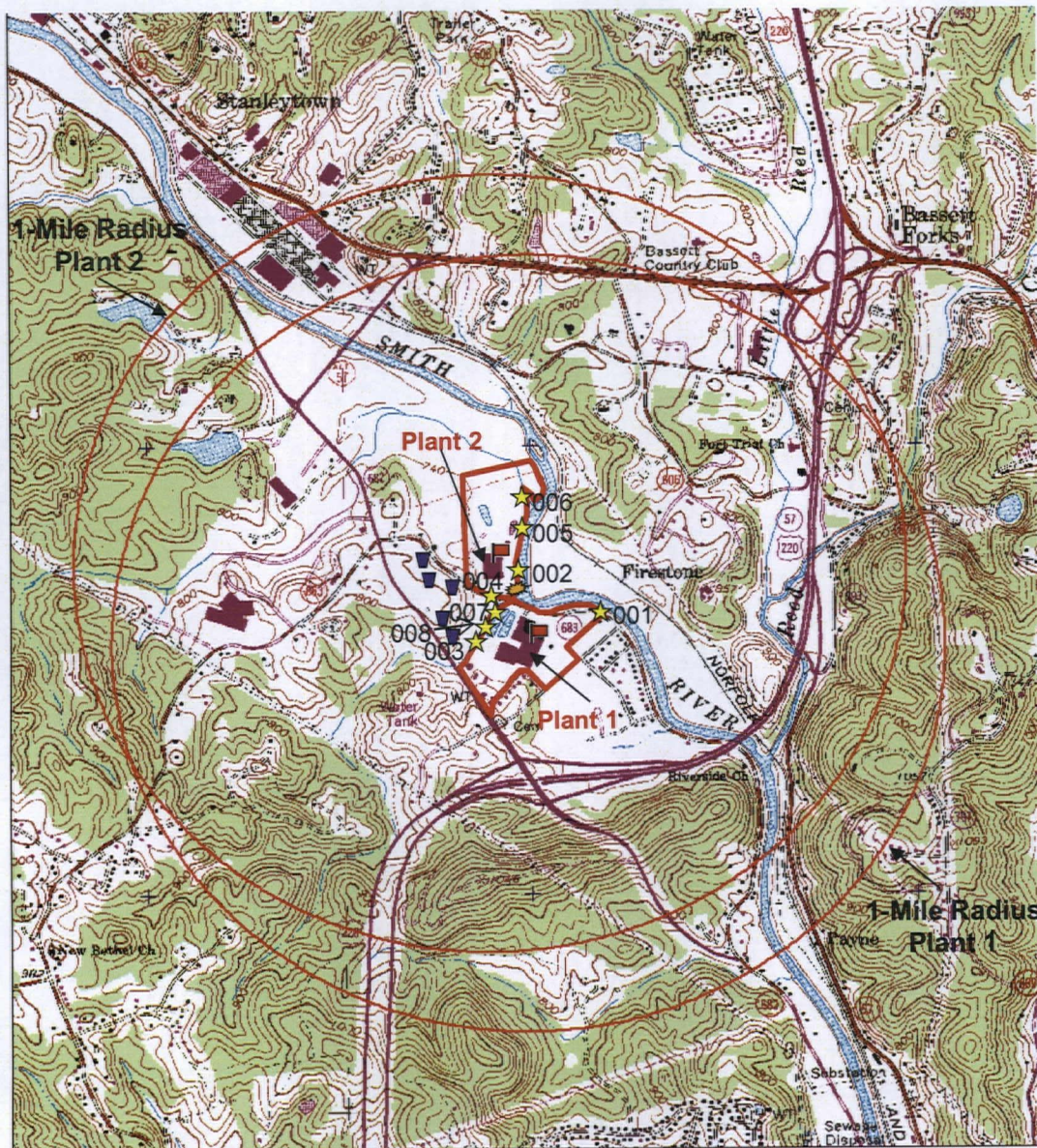
	Completed	Initiated	Not Yet Begun	Other
(r)(2) Source water physical data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(3) Cooling water intake structure data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(4) Source water baseline biological characterization data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(5) Cooling water system data	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(6) Chosen Method of Compliance with Impingement Mortality Standard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>N/A</b>
(r)(7) Previous Entrainment Performance Studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>N/A</b>
(r)(8) Operational Status	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<b>N/A</b>

For Facilities withdrawing more than 150 MGD: **Not Applicable**

	Completed	Initiated	Not Yet Begun	Other
(r)(9) Entrainment Characterization Study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(10) Comprehensive Technical Feasibility and Cost Evaluation Study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(11) Benefits Valuation Study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(12) Non-water Quality Environmental and Other Impacts Study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(r)(13) Peer Review of (r)(10), (11) and (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## FIGURES





3-D TopoQuads Copyright © 1999 DeLorme, Yarmouth, ME 04096 Source Data: USGS 750 ft Scale: 1:25,000 Detail: 13-0 Datum: WGS84

★ Outfall

□ Facility Boundary

■ Drinking Water Well

☀ Water Intake

**CPFilms Inc.**  
Fieldale, Virginia

Revised 10-Apr-13  
Revised 13-Sep-12  
March 1, 2000



**LABORATORY ANALYSIS  
AND FIELD LOGS**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-115019-1

Client Project/Site: Solutia - Outfalls Martinsville VA

For:

Solutia Inc.

575 Maryville Centre Dr.

Saint Louis, Missouri 63141

Attn: Mr. William G Johnson



Authorized for release by:

8/7/2015 3:02:44 PM

Michele Kersey, Project Manager I

(912)354-7858

[michele.kersey@testamericainc.com](mailto:michele.kersey@testamericainc.com)

### LINKS

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results through

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[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Case Narrative

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

**Job ID: 680-115019-1**

**Laboratory: TestAmerica Savannah**

### Narrative

## CASE NARRATIVE

**Client: Solutia Inc.**

**Project: Solutia - Outfalls Martinsville VA**

**Report Number: 680-115019-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

### RECEIPT

The samples were received on 7/30/2015 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° C.

### TOTAL SUSPENDED SOLIDS

Samples OUTFALL #5 (680-115019-1) and OUTFALL #7 (680-115019-2) were analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 07/30/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### TOTAL KJELDAHL NITROGEN (TKN)

Samples OUTFALL #5 (680-115019-1) and OUTFALL #7 (680-115019-2) were analyzed for total kjeldahl nitrogen (TKN) in accordance with EPA Method 351.2. The samples were prepared on 08/06/2015 and analyzed on 08/07/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### NITRATE-NITRITE AS NITROGEN

Samples OUTFALL #5 (680-115019-1) and OUTFALL #7 (680-115019-2) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 07/30/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### TOTAL PHOSPHORUS

Samples OUTFALL #5 (680-115019-1) and OUTFALL #7 (680-115019-2) were analyzed for total phosphorus in accordance with EPA Method 365.4. The samples were prepared on 08/06/2015 and analyzed on 08/07/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### CHEMICAL OXYGEN DEMAND

Samples OUTFALL #5 (680-115019-1) and OUTFALL #7 (680-115019-2) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were analyzed on 08/03/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### BIOCHEMICAL OXYGEN DEMAND

Samples OUTFALL #5 (680-115019-1) and OUTFALL #7 (680-115019-2) were analyzed for Biochemical Oxygen Demand in accordance with SM 5210B. The samples were analyzed on 07/30/2015.



## Case Narrative

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

---

### Job ID: 680-115019-1 (Continued)

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#### Laboratory: TestAmerica Savannah (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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## Sample Summary

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-115019-1	OUTFALL #5	Water	07/28/15 20:00	07/30/15 08:15
680-115019-2	OUTFALL #7	Water	07/28/15 20:00	07/30/15 08:15

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TestAmerica Savannah



## Method Summary

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

Method	Method Description	Protocol	Laboratory
2540 D-2011	Total Suspended Solids Dried at 103-105°C	SM	TAL SAV
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
365.4	Phosphorus, Total	EPA	TAL SAV
410.4	COD	MCAWW	TAL SAV
5210B-2011	BOD, 5-Day	SM	TAL SAV

### Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858



## Definitions/Glossary

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

### Qualifiers

#### General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



## Client Sample Results

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

**Client Sample ID: OUTFALL #5**

**Lab Sample ID: 680-115019-1**

**Date Collected: 07/28/15 20:00**

**Matrix: Water**

**Date Received: 07/30/15 08:15**

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.9		1.0	1.0	mg/L			07/30/15 15:05	1
Nitrogen, Kjeldahl	2.2		0.20	0.10	mg/L		08/06/15 14:24	08/07/15 10:10	1
Nitrate Nitrite as N	0.34		0.050	0.010	mg/L			07/30/15 12:57	1
Phosphorus	0.10	U	0.10	0.041	mg/L		08/06/15 14:24	08/07/15 10:10	1
Chemical Oxygen Demand	46		10	5.0	mg/L			08/03/15 09:51	1
Biochemical Oxygen Demand	23		2.0	2.0	mg/L			07/30/15 15:44	1

TestAmerica Savannah



## Client Sample Results

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

**Client Sample ID: OUTFALL #7**

**Lab Sample ID: 680-115019-2**

**Date Collected: 07/28/15 20:00**

**Matrix: Water**

**Date Received: 07/30/15 08:15**

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	27		2.0	2.0	mg/L			07/30/15 15:01	1
Nitrogen, Kjeldahl	0.84		0.20	0.10	mg/L		08/06/15 14:24	08/07/15 10:11	1
Nitrate Nitrite as N	0.40		0.050	0.010	mg/L			07/30/15 13:05	1
Phosphorus	0.098	J	0.10	0.041	mg/L		08/06/15 14:24	08/07/15 10:11	1
Chemical Oxygen Demand	19		10	5.0	mg/L			08/03/15 09:51	1
Biochemical Oxygen Demand	4.3		2.0	2.0	mg/L			07/30/15 15:55	1

TestAmerica Savannah



# QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

## Method: 2540 D-2011 - Total Suspended Solids Dried at 103-105°C

Lab Sample ID: MB 680-393929/1  
Matrix: Water  
Analysis Batch: 393929

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	1.0	U	1.0	1.0	mg/L			07/30/15 14:16	1

Lab Sample ID: LCS 680-393929/2  
Matrix: Water  
Analysis Batch: 393929

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	20.0	23.5		mg/L		118	80 - 120

Lab Sample ID: LCSD 680-393929/3  
Matrix: Water  
Analysis Batch: 393929

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	20.0	23.5		mg/L		118	80 - 120	0	25

Lab Sample ID: 680-115019-2 DU  
Matrix: Water  
Analysis Batch: 393929

Client Sample ID: OUTFALL #7  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	27		27.0		mg/L		0.7	5

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 680-394913/1-A  
Matrix: Water  
Analysis Batch: 395039

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 394913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.20	U	0.20	0.10	mg/L		08/06/15 14:24	08/07/15 10:01	1

Lab Sample ID: LCS 680-394913/2-A  
Matrix: Water  
Analysis Batch: 395039

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 394913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	2.00	1.99		mg/L		100	75 - 125

## Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-393947/13  
Matrix: Water  
Analysis Batch: 393947

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.050	U	0.050	0.010	mg/L			07/30/15 12:18	1

TestAmerica Savannah



# QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

## Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: MB 680-393947/44  
Matrix: Water  
Analysis Batch: 393947

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.050	U	0.050	0.010	mg/L			07/30/15 12:55	1

Lab Sample ID: LCS 680-393947/16  
Matrix: Water  
Analysis Batch: 393947

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	1.00	1.05		mg/L		105	90 - 110
Nitrite as N	0.500	0.520		mg/L		104	90 - 110

Lab Sample ID: LCS 680-393947/45  
Matrix: Water  
Analysis Batch: 393947

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	1.00	1.02		mg/L		102	90 - 110
Nitrite as N	0.500	0.522		mg/L		104	90 - 110

Lab Sample ID: 680-115019-1 MS  
Matrix: Water  
Analysis Batch: 393947

Client Sample ID: OUTFALL #5  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.34		1.00	1.28		mg/L		94	90 - 110
Nitrite as N	0.013	J	0.500	0.534		mg/L		104	90 - 110

Lab Sample ID: 680-115019-1 MSD  
Matrix: Water  
Analysis Batch: 393947

Client Sample ID: OUTFALL #5  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.34		1.00	1.28		mg/L		94	90 - 110	0	10
Nitrite as N	0.013	J	0.500	0.533		mg/L		104	90 - 110	0	10

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-394913/1-A  
Matrix: Water  
Analysis Batch: 395038

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 394913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.10	U	0.10	0.041	mg/L		08/06/15 14:24	08/07/15 10:01	1

Lab Sample ID: LCS 680-394913/2-A  
Matrix: Water  
Analysis Batch: 395038

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 394913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.08		mg/L		104	60 - 140

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## QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

### Method: 410.4 - COD

**Lab Sample ID: MB 680-394288/3**  
**Matrix: Water**  
**Analysis Batch: 394288**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	U	10	5.0	mg/L			08/03/15 09:51	1

**Lab Sample ID: LCS 680-394288/4**  
**Matrix: Water**  
**Analysis Batch: 394288**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	50.0	47.0		mg/L		94	90 - 110

### Method: 5210B-2011 - BOD, 5-Day

**Lab Sample ID: USB 680-393977/1**  
**Matrix: Water**  
**Analysis Batch: 393977**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	2.0	mg/L			07/30/15 15:01	1

**Lab Sample ID: LCS 680-393977/2**  
**Matrix: Water**  
**Analysis Batch: 393977**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	209		mg/L		105	85 - 115

**Lab Sample ID: LCSD 680-393977/3**  
**Matrix: Water**  
**Analysis Batch: 393977**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Biochemical Oxygen Demand	198	206		mg/L		104	85 - 115	1	30

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## QC Association Summary

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

### General Chemistry

#### Analysis Batch: 393929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	2540 D-2011	
680-115019-2	OUTFALL #7	Total/NA	Water	2540 D-2011	
680-115019-2 DU	OUTFALL #7	Total/NA	Water	2540 D-2011	
LCS 680-393929/2	Lab Control Sample	Total/NA	Water	2540 D-2011	
LCSD 680-393929/3	Lab Control Sample Dup	Total/NA	Water	2540 D-2011	
MB 680-393929/1	Method Blank	Total/NA	Water	2540 D-2011	

#### Analysis Batch: 393947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	353.2	
680-115019-1 MS	OUTFALL #5	Total/NA	Water	353.2	
680-115019-1 MSD	OUTFALL #5	Total/NA	Water	353.2	
680-115019-2	OUTFALL #7	Total/NA	Water	353.2	
LCS 680-393947/16	Lab Control Sample	Total/NA	Water	353.2	
LCS 680-393947/45	Lab Control Sample	Total/NA	Water	353.2	
MB 680-393947/13	Method Blank	Total/NA	Water	353.2	
MB 680-393947/44	Method Blank	Total/NA	Water	353.2	

#### Analysis Batch: 393977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	5210B-2011	
680-115019-2	OUTFALL #7	Total/NA	Water	5210B-2011	
LCS 680-393977/2	Lab Control Sample	Total/NA	Water	5210B-2011	
LCSD 680-393977/3	Lab Control Sample Dup	Total/NA	Water	5210B-2011	
USB 680-393977/1	Method Blank	Total/NA	Water	5210B-2011	

#### Analysis Batch: 394288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	410.4	
680-115019-2	OUTFALL #7	Total/NA	Water	410.4	
LCS 680-394288/4	Lab Control Sample	Total/NA	Water	410.4	
MB 680-394288/3	Method Blank	Total/NA	Water	410.4	

#### Prep Batch: 394913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	Digestion	
680-115019-2	OUTFALL #7	Total/NA	Water	Digestion	
LCS 680-394913/2-A	Lab Control Sample	Total/NA	Water	Digestion	
MB 680-394913/1-A	Method Blank	Total/NA	Water	Digestion	

#### Analysis Batch: 395038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	365.4	394913
680-115019-2	OUTFALL #7	Total/NA	Water	365.4	394913
LCS 680-394913/2-A	Lab Control Sample	Total/NA	Water	365.4	394913
MB 680-394913/1-A	Method Blank	Total/NA	Water	365.4	394913

#### Analysis Batch: 395039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-115019-1	OUTFALL #5	Total/NA	Water	351.2	394913
680-115019-2	OUTFALL #7	Total/NA	Water	351.2	394913

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## QC Association Summary

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

### General Chemistry (Continued)

#### Analysis Batch: 395039 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-394913/2-A	Lab Control Sample	Total/NA	Water	351.2	394913
MB 680-394913/1-A	Method Blank	Total/NA	Water	351.2	394913

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## Lab Chronicle

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

### Client Sample ID: OUTFALL #5

Date Collected: 07/28/15 20:00

Date Received: 07/30/15 08:15

### Lab Sample ID: 680-115019-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 D-2011		1	393929	07/30/15 15:05	KLD	TAL SAV
Total/NA	Prep	Digestion			394913	08/06/15 14:24	JRJ	TAL SAV
Total/NA	Analysis	351.2		1	395039	08/07/15 10:10	JER	TAL SAV
Total/NA	Analysis	353.2		1	393947	07/30/15 12:57	GRX	TAL SAV
Total/NA	Prep	Digestion			394913	08/06/15 14:24	JRJ	TAL SAV
Total/NA	Analysis	365.4		1	395038	08/07/15 10:10	JER	TAL SAV
Total/NA	Analysis	410.4		1	394288	08/03/15 09:51	JRJ	TAL SAV
Total/NA	Analysis	5210B-2011		1	393977	07/30/15 15:44	OLB	TAL SAV

### Client Sample ID: OUTFALL #7

Date Collected: 07/28/15 20:00

Date Received: 07/30/15 08:15

### Lab Sample ID: 680-115019-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540 D-2011		1	393929	07/30/15 15:01	KLD	TAL SAV
Total/NA	Prep	Digestion			394913	08/06/15 14:24	JRJ	TAL SAV
Total/NA	Analysis	351.2		1	395039	08/07/15 10:11	JER	TAL SAV
Total/NA	Analysis	353.2		1	393947	07/30/15 13:05	GRX	TAL SAV
Total/NA	Prep	Digestion			394913	08/06/15 14:24	JRJ	TAL SAV
Total/NA	Analysis	365.4		1	395038	08/07/15 10:11	JER	TAL SAV
Total/NA	Analysis	410.4		1	394288	08/03/15 09:51	JRJ	TAL SAV
Total/NA	Analysis	5210B-2011		1	393977	07/30/15 15:55	OLB	TAL SAV

#### Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah



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THE LEADER IN ENVIRONMENTAL TESTING

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## Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-115019-1

Login Number: 115019

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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# Certification Summary

Client: Solutia Inc.  
Project/Site: Solutia - Outfalls Martinsville VA

TestAmerica Job ID: 680-115019-1

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-15 *
Arkansas DEQ	State Program	6	88-0692	01-31-16
California	State Program	9	2939	07-31-16
Colorado	State Program	8	N/A	12-31-15
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-16
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	803	06-30-16
Guam	State Program	9	14-004r	04-16-16
Hawaii	State Program	9	N/A	06-30-16
Illinois	NELAP	5	200022	11-30-15
Indiana	State Program	5	N/A	06-30-15 *
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-15
Kentucky (UST)	State Program	4	18	06-30-16
Kentucky (WW)	State Program	4	90084	12-31-15
Louisiana	NELAP	6	30690	06-30-15 *
Louisiana (DW)	NELAP	6	LA150014	12-31-15
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-15
Massachusetts	State Program	1	M-GA006	06-30-16
Michigan	State Program	5	9925	06-30-15 *
Mississippi	State Program	4	N/A	06-30-15 *
Montana	State Program	8	CERT0081	12-31-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-16
New Jersey	NELAP	2	GA769	09-30-15
New Mexico	State Program	6	N/A	06-30-16
New York	NELAP	2	10842	03-31-16
North Carolina (DW)	State Program	4	13701	07-31-16
North Carolina (WW/SW)	State Program	4	269	12-31-15
Oklahoma	State Program	6	9984	08-31-15 *
Pennsylvania	NELAP	3	68-00474	06-30-16
Puerto Rico	State Program	2	GA00006	12-31-15
South Carolina	State Program	4	98001	06-30-15 *
Tennessee	State Program	4	TN02961	06-30-16
Texas	NELAP	6	T104704185-14-7	11-30-15
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-16
Washington	State Program	10	C805	06-10-16
West Virginia (DW)	State Program	3	9950C	12-31-15
West Virginia DEP	State Program	3	094	06-30-16
Wisconsin	State Program	5	999819810	08-31-15 *
Wyoming	State Program	8	8TMS-L	06-30-16

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\* Certification renewal pending - certification considered valid.

TestAmerica Savannah

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Savannah  
5102 LaRoche Avenue  
Savannah, GA 31404  
Tel: (912)354-7858

TestAmerica Job ID: 680-117005-1  
Client Project/Site: Solutia VPDES Outfall Martinsville VA  
Revision: 1

For:  
Solutia Inc.  
1116 South Main St.  
Blacksburg, Virginia 24060

Attn: Ms. Sandra Warner

*Michele R Kersey*

Authorized for release by:  
10/8/2015 2:09:26 PM

Michele Kersey, Project Manager I  
(912)354-7858  
michele.kersey@testamericainc.com

### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Case Narrative

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

**Job ID: 680-117005-1**

**3**

**Laboratory: TestAmerica Savannah**

**Narrative**

### CASE NARRATIVE

**Client: Solutia Inc.**

**Project: Solutia VPDES Outfall Martinsville VA**

**Report Number: 680-117005-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

#### **RECEIPT**

The samples were received on 9/23/2015 8:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

#### **OIL AND GREASE AND TPH**

Samples Outfall 005 (680-117005-1) and Outfall 007 (680-117005-2) were analyzed for Oil and Grease and TPH in accordance with EPA Method 1664A. The samples were prepared and analyzed on 09/24/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with 402659.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL SUSPENDED SOLIDS**

Samples Outfall 005 (680-117005-1) and Outfall 007 (680-117005-2) were analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 09/24/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL KJELDAHL NITROGEN (TKN)**

Samples Outfall 005 (680-117005-1) and Outfall 007 (680-117005-2) were analyzed for total kjeldahl nitrogen (TKN) in accordance with EPA Method 351.2. The samples were prepared on 10/01/2015 and analyzed on 10/02/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **NITRATE-NITRITE AS NITROGEN**

Samples Outfall 005 (680-117005-1) and Outfall 007 (680-117005-2) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 09/23/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL PHOSPHORUS**

Samples Outfall 005 (680-117005-1) and Outfall 007 (680-117005-2) were analyzed for total phosphorus in accordance with EPA Method 365.4. The samples were prepared on 10/01/2015 and analyzed on 10/02/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Case Narrative

Client: Solutia Inc.

TestAmerica Job ID: 680-117005-1

Project/Site: Solutia VPDES Outfall Martinsville VA

---

### Job ID: 680-117005-1 (Continued)

---

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#### Laboratory: TestAmerica Savannah (Continued)

##### CHEMICAL OXYGEN DEMAND

Samples Outfall 005 (680-117005-1) and Outfall 007 (680-117005-2) were analyzed for chemical oxygen demand in accordance with EPA Method 410.4. The samples were analyzed on 09/30/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Sample Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-117005-1

Project/Site: Solutia VPDES Outfall Martinsville VA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-117005-1	Outfall 005	Water	09/21/15 04:00	09/23/15 08:10
680-117005-2	Outfall 007	Water	09/21/15 04:10	09/23/15 08:10

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## Method Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-117005-1

Project/Site: Solutia VPDES Outfall Martinsville VA

Method	Method Description	Protocol	Laboratory
1664A	HEM and SGT-HEM	1664A	TAL SAV
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
365.4	Phosphorus, Total	EPA	TAL SAV
410.4	COD	MCAWW	TAL SAV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL SAV

### Protocol References:

1664A = EPA-821-98-002

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

### Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Definitions/Glossary

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

### Qualifiers

#### General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
$\alpha$	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Client Sample Results

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

**Client Sample ID: Outfall 005**

**Lab Sample ID: 680-117005-1**

Date Collected: 09/21/15 04:00

Matrix: Water

Date Received: 09/23/15 08:10

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	5.0	U	5.0	1.4	mg/L		09/24/15 08:23	09/24/15 10:56	1
Nitrogen, Kjeldahl	0.95		0.20	0.10	mg/L		10/01/15 11:23	10/02/15 10:33	1
Nitrate Nitrite as N	0.30		0.050	0.010	mg/L			09/23/15 11:54	1
Phosphorus	0.10	U	0.10	0.041	mg/L		10/01/15 11:23	10/02/15 10:33	1
Chemical Oxygen Demand	18		10	5.0	mg/L			09/30/15 09:42	1
Total Suspended Solids	7.2		1.0	1.0	mg/L			09/24/15 12:57	1

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**Client Sample ID: Outfall 007**

**Lab Sample ID: 680-117005-2**

Date Collected: 09/21/15 04:10

Matrix: Water

Date Received: 09/23/15 08:10

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	4.7	U	4.7	1.3	mg/L		09/24/15 08:23	09/24/15 10:56	1
Nitrogen, Kjeldahl	1.1		0.20	0.10	mg/L		10/01/15 11:23	10/02/15 10:37	1
Nitrate Nitrite as N	0.38		0.050	0.010	mg/L			09/23/15 11:53	1
Phosphorus	0.10	U	0.10	0.041	mg/L		10/01/15 11:23	10/02/15 10:37	1
Chemical Oxygen Demand	26		10	5.0	mg/L			09/30/15 09:42	1
Total Suspended Solids	17		4.0	4.0	mg/L			09/24/15 12:57	1

TestAmerica Savannah

## QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

### Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 680-402595/14-A						Client Sample ID: Method Blank			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 402659						Prep Batch: 402595			
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	5.0	U	5.0	1.4	mg/L		09/24/15 08:23	09/24/15 10:56	1

Lab Sample ID: LCS 680-402595/15-A						Client Sample ID: Lab Control Sample			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 402659						Prep Batch: 402595			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM (Oil & Grease)	40.0	32.6		mg/L		82	78 - 114		

Lab Sample ID: LCSD 680-402595/16-A						Client Sample ID: Lab Control Sample Dup			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 402659						Prep Batch: 402595			
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM (Oil & Grease)	40.0	33.4		mg/L		84	78 - 114		

### Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 680-403761/1-A						Client Sample ID: Method Blank			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 403978						Prep Batch: 403761			
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.20	U	0.20	0.10	mg/L		10/01/15 11:23	10/02/15 10:31	1

Lab Sample ID: LCS 680-403761/2-A						Client Sample ID: Lab Control Sample			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 403978						Prep Batch: 403761			
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Kjeldahl	2.00	2.07		mg/L		104	75 - 125		

Lab Sample ID: 680-117005-1 MS						Client Sample ID: Outfall 005			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 403978						Prep Batch: 403761			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.95		2.00	3.24		mg/L		115	75 - 125

Lab Sample ID: 680-117005-1 MSD						Client Sample ID: Outfall 005			
Matrix: Water						Prep Type: Total/NA			
Analysis Batch: 403978						Prep Batch: 403761			
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.95		2.00	3.12		mg/L		109	75 - 125

TestAmerica Savannah

## QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

### Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: 680-117005-2 DU					Client Sample ID: Outfall 007				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403978					Prep Batch: 403761				
Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit	RPD
Nitrogen, Kjeldahl	1.1		0.930		mg/L		14	40	

### Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-402469/13					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 402469									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.050	U	0.050	0.010	mg/L			09/23/15 11:24	1

Lab Sample ID: LCS 680-402469/15					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 402469									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	1.00	1.04		mg/L		104	90 - 110		

### Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-403761/1-A					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403977					Prep Batch: 403761				
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.10	U	0.10	0.041	mg/L		10/01/15 11:23	10/02/15 10:31	1

Lab Sample ID: LCS 680-403761/2-A					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403977					Prep Batch: 403761				
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Phosphorus	2.00	2.08		mg/L		104	60 - 140		

Lab Sample ID: 680-117005-1 MS					Client Sample ID: Outfall 005				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403977					Prep Batch: 403761				
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.10	U	2.00	2.09		mg/L		105	60 - 140

Lab Sample ID: 680-117005-1 MSD								Client Sample ID: Outfall 005			
Matrix: Water								Prep Type: Total/NA			
Analysis Batch: 403977								Prep Batch: 403761			
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.10	U	2.00	2.10		mg/L		105	60 - 140	0	40

TestAmerica Savannah

## QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

### Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: 680-117005-2 DU					Client Sample ID: Outfall 007				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403977					Prep Batch: 403761				
Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit	RPD
Phosphorus	0.10	U	0.0726	J	mg/L		NC	40	

### Method: 410.4 - COD

Lab Sample ID: MB 680-403503/3					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403503									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	U	10	5.0	mg/L			09/30/15 09:42	1

Lab Sample ID: LCS 680-403503/4					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 403503									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	50.0	52.9		mg/L		106	90 - 110		

### Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 680-402720/1					Client Sample ID: Method Blank				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 402720									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	1.0	U	1.0	1.0	mg/L			09/24/15 12:57	1

Lab Sample ID: LCS 680-402720/2					Client Sample ID: Lab Control Sample				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 402720									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids	20.0	21.0		mg/L		105	80 - 120		

Lab Sample ID: LCSD 680-402720/3					Client Sample ID: Lab Control Sample Dup				
Matrix: Water					Prep Type: Total/NA				
Analysis Batch: 402720									
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	20.0	23.0		mg/L		115	80 - 120	9	25

TestAmerica Savannah

## QC Association Summary

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

### General Chemistry

#### Analysis Batch: 402469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	353.2	
680-117005-2	Outfall 007	Total/NA	Water	353.2	
LCS 680-402469/15	Lab Control Sample	Total/NA	Water	353.2	
MB 680-402469/13	Method Blank	Total/NA	Water	353.2	

#### Prep Batch: 402595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	1664A	
680-117005-2	Outfall 007	Total/NA	Water	1664A	
LCS 680-402595/15-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 680-402595/16-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 680-402595/14-A	Method Blank	Total/NA	Water	1664A	

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#### Analysis Batch: 402659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	1664A	402595
680-117005-2	Outfall 007	Total/NA	Water	1664A	402595
LCS 680-402595/15-A	Lab Control Sample	Total/NA	Water	1664A	402595
LCSD 680-402595/16-A	Lab Control Sample Dup	Total/NA	Water	1664A	402595
MB 680-402595/14-A	Method Blank	Total/NA	Water	1664A	402595

#### Analysis Batch: 402720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	SM 2540D	
680-117005-2	Outfall 007	Total/NA	Water	SM 2540D	
LCS 680-402720/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 680-402720/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
MB 680-402720/1	Method Blank	Total/NA	Water	SM 2540D	

#### Analysis Batch: 403503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	410.4	
680-117005-2	Outfall 007	Total/NA	Water	410.4	
LCS 680-403503/4	Lab Control Sample	Total/NA	Water	410.4	
MB 680-403503/3	Method Blank	Total/NA	Water	410.4	

#### Prep Batch: 403761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	Digestion	
680-117005-1 MS	Outfall 005	Total/NA	Water	Digestion	
680-117005-1 MSD	Outfall 005	Total/NA	Water	Digestion	
680-117005-2	Outfall 007	Total/NA	Water	Digestion	
680-117005-2 DU	Outfall 007	Total/NA	Water	Digestion	
LCS 680-403761/2-A	Lab Control Sample	Total/NA	Water	Digestion	
MB 680-403761/1-A	Method Blank	Total/NA	Water	Digestion	

#### Analysis Batch: 403977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	365.4	403761
680-117005-1 MS	Outfall 005	Total/NA	Water	365.4	403761
680-117005-1 MSD	Outfall 005	Total/NA	Water	365.4	403761

TestAmerica Savannah

## QC Association Summary

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

### General Chemistry (Continued)

#### Analysis Batch: 403977 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-2	Outfall 007	Total/NA	Water	365.4	403761
680-117005-2 DU	Outfall 007	Total/NA	Water	365.4	403761
LCS 680-403761/2-A	Lab Control Sample	Total/NA	Water	365.4	403761
MB 680-403761/1-A	Method Blank	Total/NA	Water	365.4	403761

#### Analysis Batch: 403978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117005-1	Outfall 005	Total/NA	Water	351.2	403761
680-117005-1 MS	Outfall 005	Total/NA	Water	351.2	403761
680-117005-1 MSD	Outfall 005	Total/NA	Water	351.2	403761
680-117005-2	Outfall 007	Total/NA	Water	351.2	403761
680-117005-2 DU	Outfall 007	Total/NA	Water	351.2	403761
LCS 680-403761/2-A	Lab Control Sample	Total/NA	Water	351.2	403761
MB 680-403761/1-A	Method Blank	Total/NA	Water	351.2	403761

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# Lab Chronicle

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117005-1

**Client Sample ID: Outfall 005**

**Lab Sample ID: 680-117005-1**

**Date Collected: 09/21/15 04:00**

**Matrix: Water**

**Date Received: 09/23/15 08:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			504 mL	500 mL	402595	09/24/15 08:23	ALS	TAL SAV
Total/NA	Analysis	1664A		1	504 mL	500 mL	402659	09/24/15 10:56	ALS	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Prep	Digestion			20 mL	20 mL	403761	10/01/15 11:23	JRJ	TAL SAV
Total/NA	Analysis	351.2		1	20 mL	20 mL	403978	10/02/15 10:33	JER	TAL SAV
		Instrument ID: LACHAT3								
Total/NA	Analysis	353.2		1	2 mL	2 mL	402469	09/23/15 11:54	GRX	TAL SAV
		Instrument ID: LACHAT2								
Total/NA	Prep	Digestion			20 mL	20 mL	403761	10/01/15 11:23	JRJ	TAL SAV
Total/NA	Analysis	365.4		1	20 mL	20 mL	403977	10/02/15 10:33	JER	TAL SAV
		Instrument ID: LACHAT3								
Total/NA	Analysis	410.4		1	2 mL	2 mL	403503	09/30/15 09:42	JRJ	TAL SAV
		Instrument ID: SPC3								
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	402720	09/24/15 12:57	KLD	TAL SAV
		Instrument ID: NOEQUIP								



**Client Sample ID: Outfall 007**

**Lab Sample ID: 680-117005-2**

**Date Collected: 09/21/15 04:10**

**Matrix: Water**

**Date Received: 09/23/15 08:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			533 mL	500 mL	402595	09/24/15 08:23	ALS	TAL SAV
Total/NA	Analysis	1664A		1	533 mL	500 mL	402659	09/24/15 10:56	ALS	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Prep	Digestion			20 mL	20 mL	403761	10/01/15 11:23	JRJ	TAL SAV
Total/NA	Analysis	351.2		1	20 mL	20 mL	403978	10/02/15 10:37	JER	TAL SAV
		Instrument ID: LACHAT3								
Total/NA	Analysis	353.2		1	2 mL	2 mL	402469	09/23/15 11:53	GRX	TAL SAV
		Instrument ID: LACHAT2								
Total/NA	Prep	Digestion			20 mL	20 mL	403761	10/01/15 11:23	JRJ	TAL SAV
Total/NA	Analysis	365.4		1	20 mL	20 mL	403977	10/02/15 10:37	JER	TAL SAV
		Instrument ID: LACHAT3								
Total/NA	Analysis	410.4		1	2 mL	2 mL	403503	09/30/15 09:42	JRJ	TAL SAV
		Instrument ID: SPC3								
Total/NA	Analysis	SM 2540D		1	250 mL	1000 mL	402720	09/24/15 12:57	KLD	TAL SAV
		Instrument ID: NOEQUIP								

## Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

5102 LaRoche Avenue  
Savannah, GA 31404  
Phone (912) 354-7858 Fax (912) 352-0165

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

## Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-117005-1

Login Number: 117005

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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## Certification Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-117005-1

Project/Site: Solutia VPDES Outfall Martinsville VA

### Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Virginia	NELAP	3	460161	06-14-16



REI Consultants, Inc.  
PO Box 286  
Beaver, WV 25813  
TEL: (304) 255-2500  
Website: [www.reiclabs.com](http://www.reiclabs.com)

**Improving the environment, one client at a time...**

3029-C Peters Creek Road  
Roanoke, VA 24019  
TEL: 540.777.1276

101 17th Street  
Ashland, KY 41101  
TEL: 606.393.5027

1557 Commerce Road, Suite 201  
Verona, VA 24482  
TEL: 540.248.0183

16 Commerce Drive  
Westover, WV 26501  
TEL: 304.241.5861

Tuesday, September 29, 2015

Mr. John Martinez  
CP FILMS, INC.  
P.O. BOX 5068  
MARTINSVILLE, VA 24115

TEL: (276) 627-3373

FAX: (276) 627-3009

RE: CP FILMS

Work Order #: 1509Q60

Dear Mr. John Martinez:

REI Consultants, Inc. received 2 sample(s) on 9/22/2015 for the analyses presented in the following report.

Sincerely,

Scott Gross

Project Manager



**Client:** CP FILMS, INC.**Project:** CP FILMS

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The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by REIC Service Centers are designated by an annotation on the test code. All other tests were performed by REIC's Main Laboratory in Beaver, WV.

This report may not be reproduced, except in full, without the written approval of REIC.

**DEFINITIONS:**

MCL: Maximum Contaminant Level

MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.

Mg/Kg or mg/L: Units of part per million (PPM) - milligram per kilogram (weight/weight) or milligram per Liter (weight/volume).

NA: Not Applicable

ND: Not Detected at the PQL or MDL

PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.

Qual: Qualifier that applies to the analyte reported.

TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.

Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

**QUALIFIERS:**

X: Reported value exceeds required MCL

B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL

E: The sample result is within the method accepted Linear Dynamic Range determined by the lab for this analysis. However, it may be considered estimated when applying the TNI (The NELAC Institute) standard.

H: Holding time for preparation or analysis has been exceeded.

J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.

S: % REC (% recovery) exceeds control limits

**CERTIFICATIONS:**

Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, TNDEQ TN02926, NCDWQ 466, PADEP 68-00839, VADCLS (VELAP) 460148

Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839

Roanoke, VA: VADCLS(VELAP) 460150

Verona, VA: VADCLS(VELAP) 460151

Ashland, KY: KYDEP 00094, WV 389

Morgantown, WV: WVDHHR 003112M, WVDEP 387

# REI Consultants, Inc. - Analytical Report

WO#: 1509Q60

Date Reported: 9/29/2015

Client:	CP FILMS, INC.	Collection Date:	9/21/2015 4:30:00 PM
Project:	CP FILMS	Date Received:	9/22/2015
Lab ID:	1509Q60-01A	Matrix:	Liquid
Client Sample ID:	STORMWATER OUTFALL 005	Site ID:	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
<b>BOD, 5 Day, 20°C</b>								
				Method: SM5210 B-2001		Analyst: VR		
Biochemical Oxygen Demand	3	NA	2	1,000	mg/L	09/23/15 8:52AM	09/28/15 7:52AM	PA/VA

## Notes:

The dilution water blank associated with this sample was outside laboratory control limits. The reported result may be biased high.

# REI Consultants, Inc. - Analytical Report

WO#: 1509Q60

Date Reported: 9/29/2015

Client:	CP FILMS, INC.	Collection Date:	9/21/2015 4:30:00 PM
Project:	CP FILMS	Date Received:	9/22/2015
Lab ID:	1509Q60-02A	Matrix:	Liquid
Client Sample ID:	STORMWATER OUTFALL 007	Site ID:	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
<b>BOD, 5 Day, 20°C</b>								
				<b>Method: SM5210 B-2001</b>		<b>Analyst: VR</b>		
Biochemical Oxygen Demand	5	NA	2	1,000	mg/L	09/23/15 8:52AM	09/28/15 7:55AM	PA/VA

## Notes:

The dilution water blank associated with this sample was outside laboratory control limits. The reported result may be biased high.





Improving the environment, one client at a time...

REI Consultants, Inc.  
PO Box 286  
Beaver, WV 25813  
TEL: (304)255-2500  
Website: www.reiclabs.com

## Sample Receipt Checklist

Client Name:	CPF001	Work Order Number:	1509Q60
RCPNo:	1	Date and Time Received:	9/22/2015 8:40:16 PM
		Received by:	Anthony Sisk
Completed By:	Anthony Sisk	Reviewed By:	Scott Gross
Completed Date:	9/22/2015 8:46:02 PM	Reviewed Date:	9/23/2015 4:19 AM

Carrier Name: REIC

- |     |   |   |                             |   |
|-----|---|---|-----------------------------|---|
| 1.  | Chain of custody present?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 2.  | Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 3.  | Are matrices correctly identified on Chain of custody?  | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 4.  | Is it clear what analyses were requested?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 5.  | Custody seals intact?                                   | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 6.  | Samples in proper container type and preservative?      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 7.  | Were correct preservatives noted on COC?                | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 8.  | Sample containers intact?                               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 9.  | Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 10. | Were container labels complete?                         | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 11. | All samples received within holding time?               | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 12. | Was an attempt made to cool the samples?                | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/>                     |
| 13. | Sample Temp. taken and recorded upon receipt?           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | To 5.8 °C                                       |
| 14. | Water - Were bubbles absent in VOC vials?               | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | No Vials <input checked="" type="checkbox"/>    |
| 15. | Are Samples considered acceptable?                      | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |
| 16. | COC filled out properly?                                | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |   |

## Client Notification/Response

Client Name:	CPF001	Work Order Number:	1509Q60
Comment:			
Client Contacted:	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
Person Contacted:			
Contact Mode:	Phone <input type="checkbox"/>	Fax: <input type="checkbox"/>	Email: <input type="checkbox"/>
In Person:	<input type="checkbox"/>		
Date Contacted:	Contacted By:		
Regarding:			
Client Instructions:			
Corrective Action:			

## CHAIN OF CUSTODY RECORD



Research Environmental &amp; Industrial Consultants, Inc.

MAIN LABORATORY &  
CORPORATE HEADQUARTERS:P.O. Box 286  
225 Industrial Park Rd  
Beaver, WV 25813  
800-999-0105 • 304-255-2500ROANOKE, VA  
SERVICE CENTER:  
3025-B Peters Creek Rd  
Roanoke, VA 24019  
540-777-1276

Client: CP Films

Contact Person John Martinez/Teddy Mosley Phone 276-627-3373

Address P.O. Box 5068

City Martinsville

State VA Zip 24115

Billing Address (if different)

Address

City

State

Zip

PURCHASE ORDER #

Site ID &amp; State

Project ID CP Films

Sampler T Mosley

## SAMPLE LOG &amp; ANALYSIS REQUEST

## TURNAROUND TIME



NORMAL

## RUSH TURNAROUND



5 DAY



3 DAY



2 DAY



1 DAY

\*Rush work needs prior laboratory approval and will incur additional charges

ANALYSIS &amp; METHOD REQUESTED

BOD

SAMPLE ID	No. & Type of Containers	Sampling Date/Time	Matrix	Sample Comp/Grab	O														
Storm water Outfall 005 & 007	2 Plastic	9/21/15-4:30	Water	Grab	X														
			Other (note in	Choose															
			Other (note in	Choose															
			Other (note in	Choose															
			Choose	Choose															
			Choose	Choose															
			Choose	Choose															
			Choose	Choose															
			Choose	Choose															

## ENTER PRESERVATIVE CODE:

- |                     |                      |
|---------------------|----------------------|
| 0 None              | 4 Sodium Thiosulfate |
| 1 Hydrochloric Acid | 5 Sodium Hydroxide   |
| 2 Nitric Acid       | 6 Zinc Acetate       |
| 3 Sulfuric Acid     | 7 EDTA               |

## COMMENTS:

Grab Samples from outfalls 005 and 007.

- \* Sample used ✓
- \* client Dropoff
- \* Client bottles

Temperature at arrival: 5.8 °C

<i>John Mosley</i>	9-21-15	<i>[Signature]</i>	9-23-15	<i>[Signature]</i>		
<i>[Signature]</i>	9-22-15	<i>[Signature]</i>	9-22-15	<i>[Signature]</i>		

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.  
TestAmerica Savannah  
5102 LaRoche Avenue  
Savannah, GA 31404  
Tel: (912)354-7858

TestAmerica Job ID: 680-117008-1  
Client Project/Site: Solutia VPDES Outfall Martinsville VA

For:  
Solutia Inc.  
1116 South Main St.  
Blacksburg, Virginia 24060

Attn: Ms. Sandra Warner

*Michele Kersey*

Authorized for release by:  
10/7/2015 4:04:48 PM

Michele Kersey, Project Manager I  
(912)354-7858  
michele.kersey@testamericainc.com

### LINKS

Review your project  
results through

**Total Access**

Have a Question?



**Ask  
The  
Expert**

Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

## Definitions/Glossary

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117008-1

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### Qualifiers

#### General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Sample Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-117008-1

Project/Site: Solutia VPDES Outfall Martinsville VA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-117008-1	VPDES Outfall 002	Water	09/21/15 09:30	09/23/15 08:10

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## Case Narrative

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117008-1

**Job ID: 680-117008-1**

**Laboratory: TestAmerica Savannah**

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**Narrative**

### CASE NARRATIVE

**Client: Solutia Inc.**

**Project: Solutia VPDES Outfall Martinsville VA**

**Report Number: 680-117008-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

#### RECEIPT

The sample was received on 9/23/2015 8:10 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

#### OIL AND GREASE AND TPH

Sample VPDES Outfall 002 (680-117008-1) was analyzed for Oil and Grease and TPH in accordance with EPA Method 1664A. The samples were prepared and analyzed on 09/24/2015.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with 402659.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### CHEMICAL OXYGEN DEMAND

Sample VPDES Outfall 002 (680-117008-1) was analyzed for chemical oxygen demand in accordance with SM 5220D. The samples were analyzed on 09/30/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### TOTAL ORGANIC CARBON

Sample VPDES Outfall 002 (680-117008-1) was analyzed for total organic carbon in accordance with EPA SW-846 Method 9060A. The samples were analyzed on 10/02/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Client Sample Results

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117008-1

**Client Sample ID: VPDES Outfall 002**

**Lab Sample ID: 680-117008-1**

**Date Collected: 09/21/15 09:30**

**Matrix: Water**

**Date Received: 09/23/15 08:10**

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	5.1	U	5.1	1.4	mg/L		09/24/15 08:23	09/24/15 10:56	1
Chemical Oxygen Demand	9.6	J	10	5.0	mg/L			09/30/15 09:42	1
Total Organic Carbon	2.4		1.0	0.50	mg/L			10/02/15 20:56	1

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## QC Sample Results

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117008-1

### Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 680-402595/14-A  
Matrix: Water  
Analysis Batch: 402659

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 402595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Oil & Grease	5.0	U	5.0	1.4	mg/L		09/24/15 08:23	09/24/15 10:56	1

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Lab Sample ID: LCS 680-402595/15-A  
Matrix: Water  
Analysis Batch: 402659

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 402595  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Oil & Grease	40.0	32.6		mg/L		82	78 - 114

Lab Sample ID: LCSD 680-402595/16-A  
Matrix: Water  
Analysis Batch: 402659

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 402595  
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Oil & Grease	40.0	33.4		mg/L		84	78 - 114	2	18

### Method: 5220D-2011 - Chemical Oxygen Demand

Lab Sample ID: MB 680-403503/3  
Matrix: Water  
Analysis Batch: 403503

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	U	10	5.0	mg/L			09/30/15 09:42	1

Lab Sample ID: LCS 680-403503/4  
Matrix: Water  
Analysis Batch: 403503

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	50.0	52.9		mg/L		106	90 - 110

### Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 680-404503/3  
Matrix: Water  
Analysis Batch: 404503

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0	0.50	mg/L			10/02/15 19:05	1

Lab Sample ID: LCS 680-404503/5  
Matrix: Water  
Analysis Batch: 404503

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Total Organic Carbon	20.0	19.4		mg/L		97	80 - 120

TestAmerica Savannah



## QC Association Summary

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117008-1

### General Chemistry

#### Prep Batch: 402595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117008-1	VPDES Outfall 002	Total/NA	Water	1664A	
LCS 680-402595/15-A	Lab Control Sample	Total/NA	Water	1664A	
LCSD 680-402595/16-A	Lab Control Sample Dup	Total/NA	Water	1664A	
MB 680-402595/14-A	Method Blank	Total/NA	Water	1664A	

#### Analysis Batch: 402659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117008-1	VPDES Outfall 002	Total/NA	Water	1664A	402595
LCS 680-402595/15-A	Lab Control Sample	Total/NA	Water	1664A	402595
LCSD 680-402595/16-A	Lab Control Sample Dup	Total/NA	Water	1664A	402595
MB 680-402595/14-A	Method Blank	Total/NA	Water	1664A	402595

#### Analysis Batch: 403503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117008-1	VPDES Outfall 002	Total/NA	Water	5220D-2011	
LCS 680-403503/4	Lab Control Sample	Total/NA	Water	5220D-2011	
MB 680-403503/3	Method Blank	Total/NA	Water	5220D-2011	

#### Analysis Batch: 404503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-117008-1	VPDES Outfall 002	Total/NA	Water	9060A	
LCS 680-404503/5	Lab Control Sample	Total/NA	Water	9060A	
MB 680-404503/3	Method Blank	Total/NA	Water	9060A	

TestAmerica Savannah

# Lab Chronicle

Client: Solutia Inc.  
Project/Site: Solutia VPDES Outfall Martinsville VA

TestAmerica Job ID: 680-117008-1

**Client Sample ID: VPDES Outfall 002**

**Lab Sample ID: 680-117008-1**

**Date Collected: 09/21/15 09:30**

**Matrix: Water**

**Date Received: 09/23/15 08:10**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	1664A			486 mL	500 mL	402595	09/24/15 08:23	ALS	TAL SAV
Total/NA	Analysis	1664A		1	486 mL	500 mL	402659	09/24/15 10:56	ALS	TAL SAV
		Instrument ID: NOEQUIP								
Total/NA	Analysis	5220D-2011		1	2 mL	2 mL	403503	09/30/15 09:42	JRJ	TAL SAV
		Instrument ID: SPC3								
Total/NA	Analysis	9060A		1	40 mL	40 mL	404503	10/02/15 20:56	KMB	TAL SAV
		Instrument ID: TOC7								

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## Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

## Certification Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-117008-1

Project/Site: Solutia VPDES Outfall Martinsville VA

---

### Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

---

Authority	Program	EPA Region	Certification ID	Expiration Date
Virginia	NELAP	3	460161	06-14-16

## Method Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-117008-1

Project/Site: Solutia VPDES Outfall Martinsville VA

Method	Method Description	Protocol	Laboratory
1664A	HEM and SGT-HEM	1664A	TAL SAV
5220D-2011	Chemical Oxygen Demand	SM	TAL SAV
9060A	Organic Carbon, Total (TOC)	SW846	TAL SAV

### Protocol References:

1664A = EPA-821-98-002

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858



TestAmerica Savannah

TAL8240-680 (1008)

## Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-117008-1

Login Number: 117008

List Source: TestAmerica Savannah

List Number: 1

Creator: Kirkland, Keyon A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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**CPFilms – Fieldale Facility  
Storm Water Sample Collection Notes**

Date of last measurable rain event: <72 Hrs Hours since last measurable rain event: <72 Hrs

Date: 7/28/15 Storm Start Time: 17:50 Storm End Time: 20:20 Quantity of Rain (inches): 2.1

Total Discharge Volume: 345,000 gallons Maximum Flow Rate: 6,800 gallons per minute

**OUTFALL** 5 :

**Grab Sample:** Time Collected: 18:00 Sampler's Signature: Jeddy Masly

Temperature: 64.2 °F Time of Analysis: 18:05 Analyst's Signature: Jeddy Masly

pH: 7.08 S.U. Time of Analysis: 18:10 Analyst's Signature: Jeddy Masly

Tot. Res. Cl<sub>2</sub>: N/A mg/L Time of Analysis: 18:15 Analyst's Signature: Jeddy Masly

**Flow-weighted Composite Sample:**

Time: <u>18:00</u>	Level: <u>Half Pipe</u>	Flow: <u>3,700 gpm</u>	Vol. of Subsample: <u>1000</u>
Time: <u>18:15</u>	Level: <u>3/4 Pipe</u>	Flow: <u>6,800 gpm</u>	Vol. of Subsample: <u>1500</u>
Time: <u>18:30</u>	Level: <u>Half Pipe</u>	Flow: <u>3,700 gpm</u>	Vol. of Subsample: <u>1000</u>
Time: <u>18:45</u>	Level: <u>Half Pipe</u>	Flow: <u>3,700 gpm</u>	Vol. of Subsample: <u>1000</u>
Time: <u>19:00</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:15</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:30</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:45</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>20:00</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>20:15</u>	Level: <u>Dripping</u>	Flow: <u>40 gpm</u>	Vol. of Subsample: <u>50</u>
Time: <u>20:30</u>	Level: <u>Dripping</u>	Flow: <u>40 gpm</u>	Vol. of Subsample: <u>50</u>

Length of composite sample (time): 2.5 hours

TOTAL VOLUME COLLECTED: 7.10 liters

Sampler's Signature: Jeddy Masly

Comments: \_\_\_\_\_

$3700 \times 3 \times 15 \text{ min} = 166,500 \text{ gallons}$   
 $6800 \times 1 \times 15 \text{ min} = 102,000 \text{ gallons}$   
 $1000 \times 5 \times 15 \text{ min} = 75,000 \text{ gallons}$   
 $40 \times 2 \times 15 \text{ min} = 1,200 \text{ gallons}$

**= 344,700 gallons**





**CPFilms – Fieldale Facility**  
**Storm Water Sample Collection Notes**

Date of last measurable rain event: <72 Hrs Hours since last measurable rain event: <72 Hrs

Date: 7/28/15 Storm Start Time: 17:50 Storm End Time: 20:20 Quantity of Rain (inches): 2.1

Total Discharge Volume: ~258,000 gallons Maximum Flow Rate: 3,700 gallons per minute

**OUTFALL 7 :**

**Grab Sample:** Time Collected: 18:00 Sampler's Signature: Judy Mear

Temperature: 68.9 °F Time of Analysis: 18:05 Analyst's Signature: Judy Mear

pH: 6.97 S.U. Time of Analysis: 18:10 Analyst's Signature: Judy Mear

Tot. Res. Cl<sub>2</sub>: N/A mg/L Time of Analysis: 18:15 Analyst's Signature: Judy Mear

**Flow-weighted Composite Sample:**

Time: <u>18:00</u>	Level: <u>Half Pipe</u>	Flow: <u>3,700 gpm</u>	Vol. of Subsample: <u>1000</u>
Time: <u>18:15</u>	Level: <u>Half Pipe</u>	Flow: <u>3,700 gpm</u>	Vol. of Subsample: <u>1000</u>
Time: <u>18:30</u>	Level: <u>Half Pipe</u>	Flow: <u>3,700 gpm</u>	Vol. of Subsample: <u>1000</u>
Time: <u>18:45</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:00</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:15</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:30</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>19:45</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>20:00</u>	Level: <u>1/4 Pipe</u>	Flow: <u>1,000 gpm</u>	Vol. of Subsample: <u>500</u>
Time: <u>20:15</u>	Level: <u>Dripping</u>	Flow: <u>40 gpm</u>	Vol. of Subsample: <u>50</u>
Time: <u>20:30</u>	Level: <u>Dripping</u>	Flow: <u>40 gpm</u>	Vol. of Subsample: <u>50</u>

Length of composite sample (time): 2.5 hours

TOTAL VOLUME COLLECTED: 6.10 liters

Sampler's Signature: Judy Mear

Comments: \_\_\_\_\_

$3700 \times 3 \times 15 \text{ min} = 166,500 \text{ gallons}$   
 $1000 \times 6 \times 15 \text{ min} = 90,000 \text{ gallons}$   
 $40 \times 2 \times 15 \text{ min} = 1,200 \text{ gallons}$   
} 257,700

**CI A**



**CPFilms – Fieldale Facility**  
**Storm Water Sample Collection Notes**

Date of last measurable rain event: 9/12/15 Hours since last measurable rain event: 0.18

Date: 9/21/2015 Storm Start Time: 04:00 Storm End Time: 09:15 Quantity of Rain (inches): 0.6

Total Discharge Volume: Unknown gallons Maximum Flow Rate: Unknown gallons per minute

**OUTFALL 005 :**

**Grab Sample:** Time Collected: 04:15 Sampler's Signature: Teddy Mosley *Teddy Mosley*

Temperature: 18.8 °F Time of Analysis: 04:20 Analyst's Signature: Teddy Mosley *Teddy Mosley*

pH: 6.01 S.U. Time of Analysis: 04:20 Analyst's Signature: Teddy Mosley *Teddy Mosley*

Tot. Res. Cl<sub>2</sub>: N/A mg/L Time of Analysis: N/A Analyst's Signature: N/A

**Flow-weighted Composite Sample:**

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Length of composite sample (time): \_\_\_\_\_

TOTAL VOLUME COLLECTED: \_\_\_\_\_

Sampler's Signature: *Teddy Mosley*

Comments: Grab Sample Approx. 2 Gallon



**CPFilms – Fieldale Facility**  
**Storm Water Sample Collection Notes**

Date of last measurable rain event: 9/12/2015 Hours since last measurable rain event: 0.18

Date: 9/21/2015 Storm Start Time: 04:00 Storm End Time: 09:15 Quantity of Rain (inches): 0.6

Total Discharge Volume: Unknown gallons Maximum Flow Rate: Unknown gallons per minute

**OUTFALL** 007 :

**Grab Sample:** Time Collected: 04:15 Sampler's Signature: Teddy Mosley *Teddy Mosley*

Temperature: 18.5 °F Time of Analysis: 04:25 Analyst's Signature: Teddy Mosley *Teddy Mosley*

pH: 6.41 S.U. Time of Analysis: 04:25 Analyst's Signature: Teddy Mosley *Teddy Mosley*

Tot. Res. Cl<sub>2</sub>: N/A mg/L Time of Analysis: N/A Analyst's Signature: N/A

**Flow-weighted Composite Sample:**

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Time: \_\_\_\_\_ Level: \_\_\_\_\_ Flow: \_\_\_\_\_ Vol. of Subsample: \_\_\_\_\_

Length of composite sample (time): \_\_\_\_\_

TOTAL VOLUME COLLECTED: \_\_\_\_\_

Sampler's Signature: *Teddy Mosley*

Comments: Grab Sample Approx. Gallon

